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The gastric precancerous cascade

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Abstract

Although most gastric cancers are first detected after the 5th decade of life, they represent the end product of a prolonged precancerous process initiated during childhood as a consequence of the infection of the gastric mucosa with Helicobacter pylori. The initial phase of the process consists of active nonatrophic gastritis. The following stages are: intestinal metaplasia, first complete and then incomplete, dysplasia and finally invasive carcinoma. The progression of the lesions is modulated by other factors such as the diet: excessive salt intake accelerates the process while fresh fruits and vegetables play a protective role. Remarkably, the geographic location influences the process. In Colombia, the high altitude Andes mountain dwellers display more advanced lesions than their counterparts of the Pacific coast. It appears that the ancestral origin of the infecting bacteria have a determining influence on their capacity to induce precancerous lesions. The bacteria infecting the mountain dwellers are Amerindian in origin and display a European genotype. Bacteria infecting the Pacific coast dwellers are of Africa origin, less virulent. Chemoprevention trials have been partially effective, when the lesions are not too far advanced. Such trial may not eliminate the infection but have a tendency to eliminate preferentially the most virulent bacteria.